

AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended): In a fuel cell anode structure comprising a substrate wherein said substrate is a gas diffusion layer, a first carbon-based component comprising a first carbon material, and a second carbon component wherein said second carbon component is a carbon fill for said gas diffusion layer, said second carbon component being substantially more resistant to corrosion during cell reversal at fuel cell operating temperatures than said first carbon-based component, the improvement comprising:

said first carbon-based component having substantially no resistance to corrosion during cell reversal at fuel cell operating temperatures and said first carbon material having a BET surface area of at least $350\text{m}^2\text{g}^{-1}$.

Claim 2 (canceled)

Claim 3 (currently amended): The improved anode structure of claim 21 wherein said first carbon-based component is disposed on said gas diffusion layer.

Claim 4 (currently amended): The improved anode structure of claim 21 wherein said first carbon-based component is disposed within said gas diffusion layer.

Claim 5 (currently amended): The improved anode structure of claim 21 wherein said first carbon-based component and said second carbon component are mixed and disposed on said gas diffusion layer.

Claim 6 (currently amended): The improved anode structure of claim 21 wherein said first carbon-based component and said second carbon component are mixed and disposed within said gas diffusion layer.

Claim 7 (currently amended): The improved anode structure of claim 21 wherein said first carbon based-component and said second carbon component are disposed in separate layers on said gas diffusion layer.

Claim 8 (currently amended): The improved anode structure of claim 21 wherein said first carbon based-component and said second carbon component are disposed in separate layers within said gas diffusion layer.

Claim 9 (currently amended): ~~The improved anode structure of claim 1~~ In a fuel cell anode structure comprising a substrate wherein said substrate is a solid polymer electrolyte, a first carbon-based material comprising a first carbon material, and a second carbon component wherein the second carbon component acts as a support for an electrocatalyst material, said second carbon component being substantially more resistant to corrosion during cell reversal at fuel cell operating temperatures than said first carbon-based component, the improvement comprising:

said first carbon-based component having substantially no resistance to corrosion during cell reversal at fuel cell operating temperatures and said first carbon material having a BET surface area of at least 350 m²g⁻¹.

Claim 10 (original): The improved anode structure of claim 9 wherein said first carbon-based component is disposed on said solid polymer electrolyte.

Claim 11(original): The improved anode structure of claim 9 wherein said first carbon-based component is disposed within said solid polymer electrolyte.

Claim 12 (original): The improved anode structure of claim 9 wherein said first carbon-based component and said second carbon component are mixed and disposed on said solid polymer electrolyte.

Claim 13 (original): The improved anode structure of claim 9 wherein said first carbon-based component and said second carbon component are mixed and disposed within said solid polymer electrolyte.

Claim 14 (original): The improved anode structure of claim 9 wherein said first carbon-based component and said second carbon component are disposed in separate layers on said solid polymer electrolyte.

Claim 15 (original): The improved anode structure of claim 9 wherein said first carbon-based component and said second carbon component are disposed in separate layers within said solid polymer electrolyte.

Claim 16 (currently amended): ~~The improved anode structure of claim 1~~ In a fuel cell structure comprising a substrate wherein said substrate is a gas diffusion layer, a first carbon-based component comprising a first carbon material, and a second carbon component wherein the second carbon component acts as a support for an electrocatalyst material, said second carbon component being substantially more resistant to corrosion during cell reversal at fuel cell operating temperatures than first carbon-based component, the improvement comprising:

said first carbon-based component having substantially no resistance to corrosion during cell reversal at fuel cell operating temperatures and said first carbon material having a BET surface area of at least 350 m²g⁻¹.

Claim 17 (canceled)

Claim 18 (original): A membrane electrode assembly comprising the improved anode structure of claim 1, wherein said membrane electrode assembly is voltage reversal tolerant.

Claim 19 (original): A fuel cell comprising a membrane electrode assembly comprising the improved anode structure of claim 1.

Claim 20 (original): A fuel cell comprising the improved anode structure of claim 1.

Claim 21 (original): A method of improving tolerance of a fuel cell to voltage reversal, the method comprising incorporating in said fuel cell the improved anode structure of claim 1.

Claim 22 (new): The improved anode structure of claim 16 wherein said first carbon-based component is disposed on said gas diffusion layer.

Claim 23 (new): The improved anode structure of claim 16 wherein said first carbon-based component is disposed within said gas diffusion layer.

Claim 24 (new): The improved anode structure of claim 16 wherein said first carbon-based component and said second carbon component are mixed and disposed on said gas diffusion layer.

Claim 25 (new): The improved anode structure of claim 16 wherein said first carbon-based component and said second carbon component are mixed and disposed within said gas diffusion layer.

Claim 26 (new): The improved anode structure of claim 16 wherein said first carbon-based component and said second carbon component are disposed in separate layers on said gas diffusion layer.

Claim 27 (new): The improved anode structure of claim 16 wherein said first carbon-based component and said second carbon component are disposed in separate layers within said gas diffusion layer.

Claim 28 (new): A membrane electrode assembly comprising the improved anode structure of claim 9, wherein said membrane electrode assembly is voltage reversal tolerant.

Claim 29 (new): A membrane electrode assembly comprising the improved anode structure of claim 16, wherein said membrane electrode assembly is voltage reversal tolerant.

Claim 30 (new): A fuel cell comprising a membrane electrode assembly comprising the improved anode structure of claim 9.

Claim 31 (new): A fuel cell comprising a membrane electrode assembly comprising the improved anode structure of claim 16.

Claim 32 (new): A fuel cell comprising the improved anode structure of claim 9.

Claim 33 (new): A fuel cell comprising the improved anode structure of claim 16.

Claim 34 (new): A method of improving tolerance of a fuel cell to voltage reversal, the method comprising incorporating in said fuel cell the improved anode structure of claim 9.

Claim 35 (new): A method of improving tolerance of a fuel cell to voltage reversal, the method comprising incorporating in said fuel cell the improved anode structure of claim 16.